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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,472	02/17/2004	Adrianus Johannes Mattheus Bernsten	NL000070A	1403
24737	7590	10/18/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			YAMNITZKY, MARIE ROSE	
			ART UNIT	PAPER NUMBER

1774

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/780,472

Applicant(s)

MATTHEUS BERNTSEN ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on July 12, 2006 (amendment and terminal disclaimer) have been entered.

2. Applicant's amendment filed July 12, 2006 amends the specification and claim 17.  
Claims 13-20 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. The terminal disclaimer filed on July 12, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,743,525 has been reviewed and is accepted. The terminal disclaimer has been recorded. Accordingly, the obviousness-type double patenting rejection set forth in the Office action mailed April 12, 2006 is overcome.

4. The objection to the amendment filed February 08, 2006 as introducing new matter into the disclosure is overcome by the amendments to the specification filed July 12, 2006.

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5. Applicant's claim for the benefit of several prior-filed applications under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior filed application (09/790,201) fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The prior application does not provide adequate support and/or enablement for the definition of R<sup>1</sup> and R<sup>2</sup> as separately being a C<sub>1</sub>-C<sub>20</sub> alkylene group as in claims 13-16.

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

The present application is filed with a copy of the declaration from prior application 09/790,201. However, the present application contains new matter relative to the '201 application. A new oath or declaration is required, along with the surcharge set forth in 37 CFR 1.16(f). See MPEP § 602.05(a).

7. The disclosure is objected to because of the following informalities:

The preliminary amendment filed February 17, 2004 describes the present application as a continuation of 09/790,201. However, the '201 application does not provide full support for the subject matter of the present claims. The application should be redesignated as a continuation-in-part of 09/790,201.

The line numbers indicated for the four amended specification paragraphs as set forth in the amendment filed July 12, 2006 do not correspond to the line numbers in the original specification, and the amendments may not be properly entered as directed. (The first amended paragraph is for a paragraph at p. 3, l. 17-20. The second amended paragraph is for a paragraph beginning at p. 9, l. 20 and continuing to p. 10, l. 8. The third amended paragraph is for a paragraph at p. 12, l. 10-13. The third amended paragraph is for a paragraph beginning at p. 12, l. 22 and continuing to p. 13, l. 8.)

The specification contains several references to the claims. See page 3, lines 21-22, the amended paragraph for the paragraph at p. 9, l. 20-p. 10, l. 8, and the amended paragraph for the paragraph at p. 12, l. 10-13. With respect to p. 3, l. 21-22, claims 2 to 4 are presently cancelled; the examiner suggests that l. 21-22 be deleted. With respect to the two amended paragraphs, the

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examiner notes that the language regarding the “subject matter of the claims” is a change, though not noted as a change. These two paragraphs previously recited “not in accordance with the invention”. The examiner suggests that the prior language of “not in accordance with the invention” be utilized.

A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) to correct the informalities noted above. Due to the number of proposed amendments to the specification which have been filed in this application, and due to the errors in line numbers noted in the directions for entry of the amendments, a substitute specification is required to ensure that the specification changes are correctly entered.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

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8. Claims 13-16 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, for reasons of record in the Office action mailed May 09, 2005.

9. Claims 13-16 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record in the Office action mailed May 09, 2005, and the additional reasons set forth below.

When  $R^1$  and/or  $R^2$  is a divalent group by itself (i.e.  $R^1$  is a  $C_1$ - $C_{20}$  alkylene group by itself and/or  $R^2$  is a  $C_1$ - $C_{20}$  alkylene group by itself), the R substituent is not fully defined because the claim language does not indicate what fills the second bond position of  $R^1$  and/or  $R^2$ . For example, when R is  $-XR^1$ ,  $-X-$  represents  $-O-$  and  $R^1$  is a  $C_1$ - $C_{20}$  alkylene group,  $R^1$  is a divalent group that connects  $-O-$  to some unspecified group.

10. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/24526.

(See US 2002/0064680 A1 as representing a translation of the international application published as WO 99/24526.)

See the whole document. In particular, see the abstract, page 21 (monomer 16), p. 60, l. 1-19, p. 76 and p. 80.

Prior art polymer P9 is an aryl-substituted poly-p-arylenevinylene comprising a repeating unit of formula (C1) as defined in present claim 17 and further defined in claims 18-20.

Polymer P9 is disclosed for use in an organic electroluminescent device.

The service life limitations set forth in claim 17 are expected by the examiner to be inherent in the prior art device made with polymer P9 given that polymer P9 is within the scope of the aryl-substituted poly-p-arylenevinylene required by present claims 17-20, and given the structural similarity between prior art polymer P9 and the polymer of formula (C8) on page 13 of the present specification. Prior art polymer P9 has -F as a substituent corresponding to "R" in present formula (C1) where the polymer of formula (C8) has -OC<sub>1</sub> as the "R" substituent. While the polymer of formula (C8) is no longer within the scope of the polymer required by present claims 17-20 (the altered definition of R<sup>1</sup> in claim 17 excludes -OC<sub>1</sub> as the "R" substituent, but allows for -OC<sub>2-20</sub> as the "R" substituent), the polymer of formula (C8) is similar to polymers within the scope of the present claims and similar to prior art polymer P9. The polymer of formula (C8) also provides a device meeting the service life limitations. It is reasonable to expect that a device made with prior art polymer P9 will meet the service life limitations of claims 17-20 since a device made with a polymer of present formula (C8) meets the service life limitations.

11. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/21936.

See the whole document. In particular, see page 1, line 18-p. 2, l. 10, p. 4, l. 12-21, p. 15, l. 9-p. 17, l. 20, p. 19, l. 1-13 and p. 19, l. 25-p. 20, l. 22.



Each of prior art polymers NRS-291, NRS-293, NRS-294 and NRS-296 are aryl-substituted poly-p-arylenevinylenes comprising a repeating unit similar to the repeating unit of formula (C1) as defined in present claims 13-20. These specific prior art polymers differ from the polymers of the present claims in that the prior art polymers have a repeating unit of formula (C1) wherein p is 0 whereas the present claims require p to be 1, 2 or 3.

The prior art polymers are disclosed for use in an organic electroluminescent device.

While the prior art does not disclose any specific examples of polymers comprising or consisting of units of present formula (C1) in which p is 1, 2 or 3, such polymers are suggested by and are within the scope of the prior art. A polymer consisting of units of formula (C1) as defined on page 4 of the prior art wherein R<sup>1</sup> is a C<sub>1</sub>-C<sub>20</sub> alkoxy suggests a polymer consisting of units of formula (C1) as defined in present claim 13 wherein p is 1 and R is -XR<sup>1</sup> wherein -X- represents -O- and R<sup>1</sup> represents a C<sub>1</sub>-C<sub>20</sub> alkyl group. (For purposes of this rejection, the examiner presumes that "alkylene" in the sixth line after formula (C1) in claim 13 should read --alkyl--.) A polymer comprising units of formula (C1) as defined on page 4 of the prior art wherein R<sup>1</sup> is a C<sub>2</sub>-C<sub>20</sub> alkoxy suggests a polymer comprising units of formula (C1) as defined in present claim 17 wherein p is 1 and R is -XR<sup>1</sup> wherein -X- represents -O- and R<sup>1</sup> represents a C<sub>2</sub>-C<sub>20</sub> alkyl group. A polymer comprising units of formula (C2) as defined on page 4 of the prior art suggests a polymer comprising units of formula (C1) as defined in present claim 17 wherein p is 1 and R is a C<sub>4</sub>-C<sub>12</sub> aryl group which may or may not be substituted.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make polymers within the scope of the prior art and suggested by the prior art

other than those specifically disclosed with the expectation that other polymers suggested by the prior art would be usable for the prior art purposes. Given the prior art disclosure as a whole regarding service life values, storage and operating temperatures, and emission color, it would have been within the level of ordinary skill of a worker in the art at the time of the invention to provide a polymer comprising repeating units suitable for providing a desired color of light emission while optimizing device characteristics such as service life.

The prior art intends the polymers to be used in devices driven at temperatures in excess of 70 °C, and the prior art discloses service life values in excess of 1000 h. Although the working examples in the prior art disclose initial brightness values lower than the values set forth in claim 17, the prior art values are obtained at relatively low voltages (3V). Claim 17 does not limit the voltage at which the initial brightness value is obtained. As is well-known in the art (and admitted by applicants on page 1 of the present specification), brightness can be increased by increasing voltage.

12. Applicant's arguments filed July 12, 2006 have been fully considered but they are not persuasive.

With respect to the rejection under 35 U.S.C. 112, 1<sup>st</sup> paragraph, applicant's attention is respectfully directed to the last paragraph of MPEP 608.04(b) (8<sup>th</sup> Ed. Rev. 3, August 2005). For applications filed prior to September 21, 2004, a preliminary amendment present on the filing date of the application may be considered a part of the original disclosure if it was referred to in a first filed oath or declaration in compliance with 37 CFR 1.67 (emphasis added). The present

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application was filed prior to September 21, 2004, and the first filed oath or declaration does not refer to the preliminary amendment. Accordingly, the preliminary amendment is not considered to be part of the original disclosure.

If applicant files the required supplemental oath or declaration under 37 CFR 1.67 referring to both the application and the preliminary amendment (along with the required surcharge under 37 CFR 1.16(f) unless previously paid) as discussed in MPEP 608.04(b), the preliminary amendment will be considered a part of the original disclosure as of the filing date of the present application (February 17, 2004), not as of the filing date of the U.S. priority application. The preliminary amendment filed February 17, 2004 presents new subject matter relative to the disclosure of 09/790,201 even if it does not introduce new matter into the application filed February 17, 2004.

With respect to the rejection under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, the formulae and variables set forth in claim 13 imply that R<sup>1</sup> and R<sup>2</sup> alone are monovalent. R<sup>1</sup> alone is only bonded to X. R<sup>2</sup> alone is only bonded to N. Even if the examiner accepted applicant's contention that R<sup>1</sup> or R<sup>2</sup> alone can a divalent group, the claims are indefinite for the additional reasons specified in this Office action. It is the examiner's position that applicant's reliance on Holmes (7,049,010) is misplaced. The Holmes patent claim 1 does not use the "alkylene" terminology used by applicant. The "-yl" terms used by Holmes in defining R and R' indicate monovalent groups, and the recitation of "aromatic or non-aromatic heterocyclic group" would be recognized as requiring monovalent groups for R and R' independently.

With respect to the rejection under 35 U.S.C. 102(b), the amendment of claim 17 has excluded three of the four specific prior art polymers previously relied upon. Polymer P9 of WO 99/24526 continues to meet the limitations of the polymer required for present claims 17-20. Applicant states that polymer P9 requires two dimethyloctyloxy groups. Applicant's statement is incorrect. Polymer P9 comprises a repeating unit of present formula (C1) in which p is 1, R is F,  $-OC_m$  and  $-OC_n$  are alkoxy groups, and each of m and n is 4. Polymer P9 also comprises a repeating unit outside the scope of present formula (C1), which has one dimethyloctyloxy group, but the language of present claims 17-20 is open with respect to the polymer, and does not exclude the non-(C1) repeating unit of polymer P9.

Applicant also states that monomer 16 of WO 99/24526 has a methoxy group attached to the lower aryl ring and therefore is excluded by the amendment to claim 17. The prior art does not disclose a specific polymer made with monomer 16, but a polymer made with monomer 16 would be within the scope of a polymer as required by present claims 17-20 as monomer 16 provides a repeating unit of formula (C1) as defined in claim 17. Contrary to applicant's arguments, monomer 16 has  $-OC_4$ , not  $-OC_1$ , at the position corresponding to present "R".

With respect to applicant's arguments regarding prior art polymer P8 and the polymer of formula C8 in the present specification, applicant is incorrect in stating that the prior art polymer requires two dimethyloctyloxy groups. Prior art polymer P8 has only one dimethyloctyloxy group on one of the repeating units, and no dimethyloctyloxy groups on the other repeating unit. (However, the  $-OC_1$  group in polymer P8 places it outside the scope of present claims 17-20.) Applicant's argument that the formula C8 polymer is a comparative example is not well-taken.

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The formula C8 polymer was within the scope of the polymer required by claims 17-20 prior to the amendment filed July 12, 2006. The formula C8 polymer is outside the scope of the polymer required by present claims 17-20 only in that it does not meet the definition of R/R<sup>1</sup> as amended July 12<sup>th</sup>. Contrary to applicant's arguments, the non-(C1) repeating unit in the formula C8 polymer is not excluded by the language of present claims 17-20. Claim 17 recites "an aryl-substituted poly-p-arylenevinylene comprising a repeating unit of the formula (C1)" (emphasis added).

With respect to the rejection under 35 U.S.C. 103(a), it is the examiner's position that applicant cannot rely upon the data presented in the original disclosure to demonstrate unexpected results with respect to the polymers required for present claims 17-20 because none of the specific polymers utilized in the examples is within the scope of a polymer comprising a repeating unit of formula (C1) as defined in claims 17-20. Applicant's amendment filed July 12, 2006 has effectively excluded all of the exemplary polymers set forth in the specification from the scope of a polymer comprising (C1) as defined in claims 17-20.

Claims 13-16 are directed to a polymer with no limitation on properties of the polymer. Even if properties of the polymer were limited, the data presented in the original specification also do not demonstrate unexpected results with respect to the polymers of claims 13-16, which must consist of a repeating unit of formula (C1) in which p is 1, 2 or 3. None of the exemplary polymers disclosed in the specification consist of a repeating unit of formula (C1) in which p is 1, 2 or 3.

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13. The reference made of record and not relied upon is considered pertinent to applicant's disclosure.

The disclosure of Spreitzer et al. (US 7,041,388 B1) does not represent prior art, but is of interest as disclosing polymers within the scope of the present claims.

14. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY  
October 16, 2006



MARIE YAMNITZKY  
PRIMARY EXAMINER

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